

UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R042XA051NM

Site Name: Sandy

Precipitation or Climate Zone: 8-10 inches

Phase: _____

PHYSIOGRAPHIC FEATURES

Narrative:

This upland site occurs on alluvial fans between the mountains and the floodplains. These fans are often dissected by small arroyos. Slopes ranging from 3 to 10 percent. It occurs on all exposures. Elevations range from about 4,500 feet above sea level to 6,000 feet.

Land Form:

1. Alluvial fan

2.

3.

Aspect:

1. Not significant.

2.

3.

Elevation (feet)	Minimum 4500	Maximum 6,000
Slope (percent)	3	10
Water Table Depth (inches)	53	>72
Flooding:	Minimum	Maximum
Frequency	Rare	Rare
Duration	Very brief	Very brief
Ponding:	Minimum	Maximum
Depth (inches)	N/A	
Frequency	N/A	
Duration	N/A	

Runoff Class:

N/A

CLIMATIC FEATURES

Narrative:

This site has an arid climate with distinct seasonal temperature variations and large annual and diurnal temperature changes characteristic of a continental climate.

Precipitation averages 8 to 10 inches annually. Deviations of 4 inches or more from the average are quite common. Fifty percent of the moisture is received from July to November, which is the dominant growing season of native plants. Summer moisture is characterized by high intensity, short duration rainstorms. Winter precipitation averages less than one-half inch per month, usually in the form of rain. There are occasional snowstorms of short duration.

Temperatures vary from a mean monthly average of 77F in July to 34F in January, with the maximum being 104F and the minimum 10F below zero. The average last killing frost in the spring is April 15 and the average first killing frost in the fall is October 28. Frost-free season is an average of 185 days. Temperatures are conducive for native grass and forbs growth from March through November.

Spring winds of 15 to 40 miles per hour are common from February to June. These winds increase transpiration rates of native plants and rapidly dry the surface soil. Small soil particles are often displaced by the wind near the soil surface. This results in structural damage to native plants, especially young seedlings.

	Minimum	Maximum
Frost-free period (days):	140	165
Freeze-free period (days):	190	213
Mean annual precipitation (inches):	8.00	10.00

Monthly moisture (inches) and temperature (°F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	0.31	0.44	34.1	36.2
February	0.31	0.46	39.3	42.0
March	0.25	0.54	46.3	48.8
April	0.33	0.52	53.3	56.5
May	0.34	0.50	62.5	64.5
June	0.46	0.70	70.6	74.3
July	1.18	2.35	75.3	78.5
August	1.64	2.47	73.0	75.9
September	1.00	1.56	66.5	68.6
October	0.89	1.25	55.5	57.4
November	0.36	0.54	43.7	45.4
December	0.44	0.57	35.1	37.2

Climate Stations:					
Station ID	NM0915	Location	Bernardo	From:	Period 1962 To 1990
					:
Station ID	NM0983	Location	Bingham	From:	Period 1961 To 1990
					:
Station ID	NM0234	Location	Albuquerque	From:	Period 1961 To 1990
					:
Station ID	NM5150	Location	Los Lunas	From:	Period 1961 To 1990
					:
					Period

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						:	
Station ID	NM0234	Location	Albuquerque	From:	Period 1961	To	1990
						:	
Station ID	NM5150	Location	Los Lunas	From:	Period 1961	To	1990
						:	
							Period

INFLUENCING WATER FEATURES

Narrative:
The plant community is not influenced by water from a wetland or stream.

Wetland description:		
System	Subsystem	Class
N/A		

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:
N/A

REPRESENTATIVE SOIL FEATURES

Narrative:

These soils are deep and moderately deep with sandy loam, gravelly sandy loam, gravelly fine sandy loam surface layers occurring mainly in the upland. Subsoils are sandy clay loam, sandy loam, gravelly loam and gravelly sandy loam. Substratums are loamy fine sand, fine sandy loam, very cobbly loam, gravelly sandy loam, and gravelly loamy sand. The soils are usually calcareous throughout. Permeability is moderate (0.63 to 2.0 inches per hour) to moderately rapid (2.0 to 6.3 inches per hour). Moisture holding capacity is 0.07 to 0.16 inches per hour. Reaction is moderately alkaline (7.0 to 8.4) to strongly alkaline (8.5 to 9.0).

Parent Material Kind: Alluvium

Parent Material Origin: Mixed

Surface Texture:

1.	Loamy sand, loamy fine sand, fine sand, sandy loam, gravelly-fine sandy loam,
2.	Gravelly-sandy loam, and loam
3.	

Surface Texture Modifier:

1.	LS,LFS,FS,SL,GR-FSL,GR-SL,L
2.	
3.	

Subsurface Texture Group: N/A

Surface Fragments <=3" (% Cover): N/A

Surface Fragments >3" (% Cover): N/A

Subsurface Fragments <=3" (%Volume): 0 %

Subsurface Fragments >=3" (%Volume): 0 %

	Minimum Poorly	Maximum Somewhat excessively
Drainage Class:	<u>Impermeable</u>	<u>Rapid</u>
Permeability Class:	<u>20</u>	<u>>72</u>
Depth (inches):	<u>0</u>	<u>16.00</u>
Electrical Conductivity (mmhos/cm):	<u>0</u>	<u>5.00</u>
Sodium Absorption Ratio:	<u>6.6</u>	<u>9.6</u>
Soil Reaction (1:1 Water):	<u>N/A</u>	
Soil Reaction (0.1M CaCl2):	<u>3</u>	<u>6</u>
Available Water Capacity (inches):	<u>N/A</u>	
Calcium Carbonate Equivalent (percent):		

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 Narrative Label: HCPC

Plant Community Narrative:

The aspect and biomass of vegetation on this site is dominantly grassland characterized by short grass. Perennial shrubs, half shrubs, and forbs are minor component of the plant community. Annual forbs are present in appreciable amounts, during spring and summer, in years of above average precipitation.

The potential plant community produces approximately 900 pounds per acre, air dry weight during years of favorably growing conditions and about 400 pounds during unfavorable years. The average annual production is 700 pounds.

Ground Cover (Average Percent of Surface Area).

Grasses & Forbs – plant density	20
Trees and shrubs – canopy	5
Bare ground	60
Surface gravel	10
Surface cobble and stone	1
Litter (percent)	5
Litter (average depth in cm.)	1

Plant Community Annual Production (by plant type):

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	280	455	630
Forb	80	130	180
Tree/Shrub/Vine	40	65	90
Lichen			
Moss			
Microbiotic Crusts			
Totals	400	650	900

Plant Community Composition and Group Annual Production:

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	BOER4	Black Grama	260	390
2	SPCR	Sand Dropseed	33	98
	SPCO4	Spike Dropseed		
	SPFL2	Mesa Dropseed		
3	ACHY	Indian Ricegrass	65	130
4	PLJA	Galleta	33	98
5	ARIST	Three Awn Spp.	33	65
6	HENE5	New Mexico Feathergrass	33	65
	HECO26	Needle and Thread		
7	BOGR2	Blue Grama	33	65
8	MUAR2	Sand Muhly	20	33
9	MUPO2	Bush Muhly	33	65
10	MUTO2	Ring Muhly	20	33
	2GRM	Other Grasses	20	33

Plant Type - Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
11	ARFI2	Sand sagebrush	7	65
12	KRLA2	Winterfat	7	33
13	EPVI	Mormon tea	7	33
14	GUSA4	Broom snakeweed	13	33
15	OPSP2	Cholla cacti	13	33
	OPPO	Pricklypear cacti		
16	ATCA2	Fourwing saltbush	7	33
17	YUCCA	Yucca	7	33

Plant Type – Forb

18	ERIOG	Buckwheat spp.	7	20
19	DESO2	Tansy mustard	7	20
20	SAKA	Tumbleweed	7	33
21	AMSIN	Fiddleneck	7	13
22	AMPS	Western Ragweed	7	20
23	VEPO4	Verbena	7	13

24	ERIGE2	Fleabane	7	20
25	SEAR8	Desert senna	7	20
26	KOSC	Kochia	7	33
	2FORB	Other Forbs	7	33

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Other grasses that could appear on this site would include: Foxtail Barley, Tumblegrass, Bottlebrush Squirreltail, Fluffgrass, Six weeks grama.

Other woody plants include: TBD by inventories.

Other forbs include: Indian paintbrush, Stickleaf, Silverleaf nightshade, Wooly Groundsel, Globemallow.

Plant Growth Curves

Growth Curve ID NM-2201

Growth Curve Name: HCPC

Growth Curve Description: SD-1 Sandy HCPC Warm Season Plant Community

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
		3	5	10	7	25	30	15	5		

Growth Curve ID NM-2202

Growth Curve Name: HCPC

Growth Curve Description: SD-1 Sandy HCPC Cool Season Plant Community

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
		15	20	20	2	5	10	15	13		

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

This ecological site provides habitats which support a resident animal community that is characterized by badger, kit fox, black tailed jackrabbit, desert cottontail, black tailed prairie dog, Ord's kangaroo rat, white tailed antelope squirrel, northern grasshopper mouse, burrowing owl, scaled quail, meadowlark, brown towhee, house finch, prairie rattlesnake, round tailed horned lizard, lesser earless lizard, and New Mexico whiptail. These sites are breeding areas for mockingbird, western kingbird, curve billed thrasher, and vesper sparrow.

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydraulic cover conditions and hydrologic soil groups.

Hydrologic Interpretations	
Soil Series	Hydrologic Group

Recreational Uses:

This site has limited potential for recreational use.

Wood Products:

This site has no potential for wood products.

Other Products:

This site is well suited for year-long grazing use by cattle, sheep, horses, antelope, deer, and burros.

Other Information:

Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month

Similarity Index	Ac/AUM
100 - 76	53 – 64
75 – 51	65 – 80
50 – 26	81 – 106
25 – 0	91 - 320

Plant Preference by Animal Kind:

	Code	Species Preference	Code
Stems	S	None Selected	N/S
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruit/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

Animal Kind: Livestock

Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Black Grama	<i>Bouteloua eriopoda</i>	EP	P	P	P	P	P	P	P	P	P	P	P	P
Blue Grama	<i>Bouteloua gracilis</i>	EP	P	P	P	P	P	P	P	P	P	P	P	P
Indian Ricegrass	<i>Achnatherum hymenoides</i>	EP	P	P	P	P	P	P	P	P	P	P	P	P
Bush Muhly	<i>Muhlenbergia porteri</i>	EP	P	P	P	P	P	P	P	P	P	P	P	P
Winterfat	<i>Krascheninnikovia lanata</i>	EP	P	P	P	P	P	P	P	P	P	P	P	P
Sand Dropseed	<i>Sporobolus cryptandrus</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Spike Dropseed	<i>Sporobolus contractus</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Mesa Dropseed	<i>Sporobolus flexuosus</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Galleta	<i>Pleuraphis jamesii</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
New Mexico Feathergrass	<i>Hesperostipa comata</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Sand Muhly	<i>Muhlenbergia arenicola</i>	EP	D	D	D	D	D	D	D	D	D	D	D	D
Buckwheat spp.	<i>Eriogonum</i> spp.	EP	D	D	D	D	D	D	D	D	D	D	D	D
Sand sagebrush	<i>Artemisia filifolia</i>	EP	U	U	U	U	U	U	U	U	U	U	U	U
Fluffgrass	<i>Dasyochloa pulchella</i>	EP	U	U	U	U	U	U	U	U	U	U	U	U
Threeawns spp.	<i>Aristida</i> spp.	EP	U	U	U	U	U	U	U	U	U	U	U	U
Ring muhly	<i>Muhlenbergia torreyi</i>	EP	U	U	U	U	U	U	U	U	U	U	U	U
Tansymustard	<i>Descurainia sophia</i>	EP	U	U	U	U	U	U	U	U	U	U	U	U
Tumbleweed	<i>Salsola kali</i>	EP	U	U	U	U	U	U	U	U	U	U	U	U
Sixweeks grama	<i>Bouteloua barbata</i>	EP	U	U	U	U	U	U	U	U	U	U	U	U
Globemallow	<i>Sphaeralcea</i> spp.	EP	U	U	U	U	U	U	U	U	U	U	U	U

Animal Kind: Livestock

Animal Type: Sheep

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Black Grama	Bouteloua eriopoda	EP	P	P	P	P	P	P	P	P	P	P	P	P
Blue Grama	Bouteloua gracilis	EP	P	P	P	P	P	P	P	P	P	P	P	P
Bush Muhly	Muhlenbergia porteri	EP	P	P	P	P	P	P	P	P	P	P	P	P
Winterfat	Krascheninnikovia lanata	EP	P	P	P	P	P	P	P	P	P	P	P	P
Buckwheat spp.	Eriogonum spp.	EP	P	P	P	P	P	P	P	P	P	P	P	P
Indian Ricegrass	Achnatherum hymenioides	EP	D	D	D	D	D	D	D	D	D	D	D	D
Sand Dropseed	Sporobolus cryptandrus	EP	D	D	D	D	D	D	D	D	D	D	D	D
Spike Dropseed	Sporobolus contractus	EP	D	D	D	D	D	D	D	D	D	D	D	D
Mesa Dropseed	Sporobolus flexuosus	EP	D	D	D	D	D	D	D	D	D	D	D	D
Sand Muhly	Muhlenbergia arenicola	EP	D	D	D	D	D	D	D	D	D	D	D	D
Sixweeks grama	Bouteloua barbata	EP	D	D	D	D	D	D	D	D	D	D	D	D
Tumbleweed	Salsola kali	EP	D	D	D	D	D	D	D	D	D	D	D	D
New Mexico Feathergrass	Hesperostipa comata	EP	U	U	U	U	U	U	U	U	U	U	U	U
Fluffgrass	Dasyochloa pulchella	EP	U	U	U	U	U	U	U	U	U	U	U	U
Ring muhly	Muhlenbergia torreyi	EP	U	U	U	U	U	U	U	U	U	U	U	U
Threeawns spp.	Aristida spp.	EP	U	U	U	U	U	U	U	U	U	U	U	U
Sand sagebrush	Artemisia filifolia	EP	U	U	U	U	U	U	U	U	U	U	U	U
Tansymustard	Descurainia sophia	EP	U	U	U	U	U	U	U	U	U	U	U	U
Pricklypear cacti	Opuntia polyacantha	EP	U	U	U	U	U	U	U	U	U	U	U	U
Cholla cacti	Opuntia imbricata	EP	U	U	U	U	U	U	U	U	U	U	U	U

SUPPORTING INFORMATION

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

Inventory Data References (narrative):

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

State Correlation:

This site has been correlated with the following sites: _____

Type Locality:

State: _____

County: _____

Latitude: _____

Longitude: _____

Township: _____

Range: _____

Section: _____

Is the type locality sensitive? Yes ☐ No ☐

General Legal Description: _____

Relationship to Other Established Classifications:
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Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the Southern Desertic Basins, Plains and Mountains, Major Land Resource Areas of New Mexico. This site has been mapped and correlated with soils in the following soil surveys. Valencia, Socorro and Bernalillo.

Characteristic Soils Are:

Tijeras gravelly fine sandy loam	Madurez sandy loam
Tijeras gravelly sandy loam	Wink sandy loam
Embudo gravelly sandy loam	Embudo sandy loam
Alameda sandy loam	Latene sandy loam
Madurez gravelly fine sandy loam	Vinton sandy loam
Embudo gravelly fine sandy	

Other Soils included are:

Site Description Approval:

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Don Sylvester	07/12/1979	Don Sylvester	07/12/1979

Site Description Revision:

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Santiago Misquez	04/12/02	George Chavez	02/14/03